

## ENTERPRISE PERFORMANCE ASSURANCE BASED ON BIG DATA ANALYTICS



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**Abstract:** Today's fast-paced businesses have to make business decisions in real time. That creates pressure on IT leaders to develop Big Data infrastructure and applications capable to process large volume of data from different sources, apply advanced analytics and present recommendations in real time. These applications work in distributed, multi-tier, virtualized, parallel processing environment, where each cluster and system has own performance management tools and dedicated performance repositories. It creates a lot of obstacles for Applications Performance Management and Capacity Management of Big Data environment.

In this presentation we will discuss challenges of creating an Enterprise Performance Assurance platform for processing streams of measurement data in memory using Kafka and Spark and storing filtrated and aggregated data in Data Lake. We will review case studies illustrating application of Big Data advanced analytics, including descriptive, diagnostic, predictive and prescriptive analytics for organizing Enterprise Performance Assurance processes.

**Author:**

*Founder and CEO of BEZNext, 2011 - present*

- Current focus of research is on applying predictive and prescriptive analytics for optimization of business and IT decisions during applications and data life cycle
- Manage development of the Performance Assurance technology incorporating advanced analytics for optimization of Big Data and Data Warehouse applications in complex multi-tier, distributed, virtualized, parallel processing environment

*CTO of Modeling and Optimization at Compuware (2010-2014)*

- Participated in development of Machine Learning algorithms for performance and availability problems detection and prediction and root cause analysis determination for web applications

*Founder, President and Chairman of BEZ Systems (1983 - 2010), acquired by*

### *Compuware in 2010*

– Managed development of BEZVision Performance Prediction and Capacity Management software for Teradata, Oracle, DB2 and SQL Servers

#### *Performance Analyst:*

– Started out as engineer at Computer Systems Research Institute working on modeling and performance evaluation of large computer systems and applying modeling results for optimization of jobs scheduling and storage performance management

– Worked in capacity management departments at FNBC and CNA Insurance company in Chicago

#### *Adjunct Associate Professor, DePaul University in Chicago (1983 – 1990)*

– Taught graduate courses on Modeling of Computer Systems, Queueing Theory with Computer Applications, Computer Communication Systems Design and Analysis

#### *Presenter:*

– Taught seminars at Northwestern University, University of Chicago and Relational Institute, North and South America, Europe, Asia, and Africa

– Author of papers on applying modeling and optimization for performance evaluation, performance assurance, performance management, workload management and capacity planning for Big Data and Data Warehouse environments

#### *Education:*

– MS and PhD research at BSUIR and NIIEVM